

FIG. 1

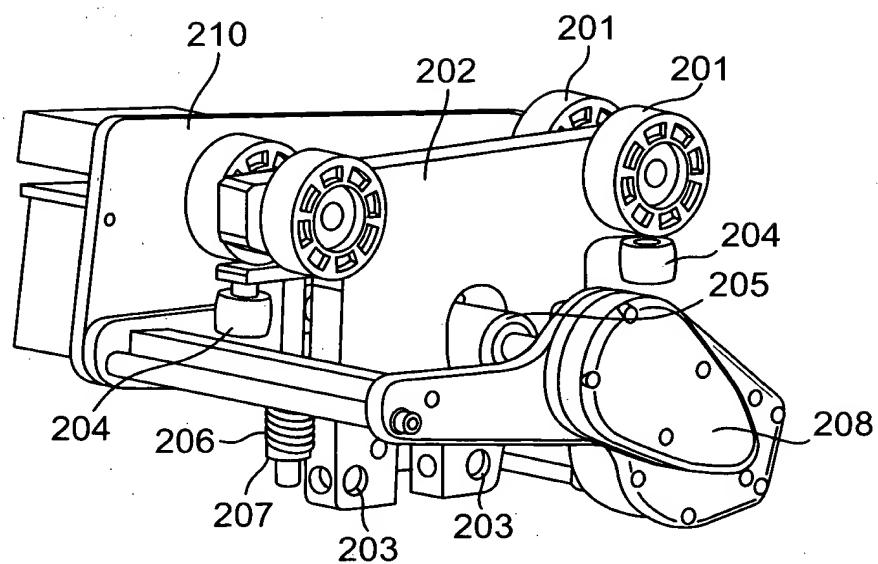


FIG. 2

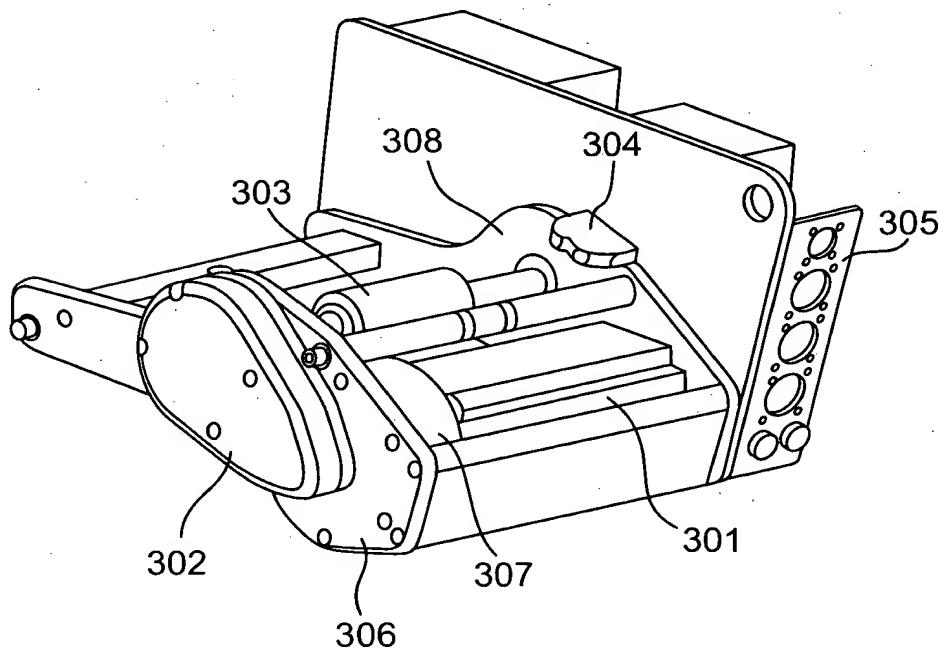


FIG. 3

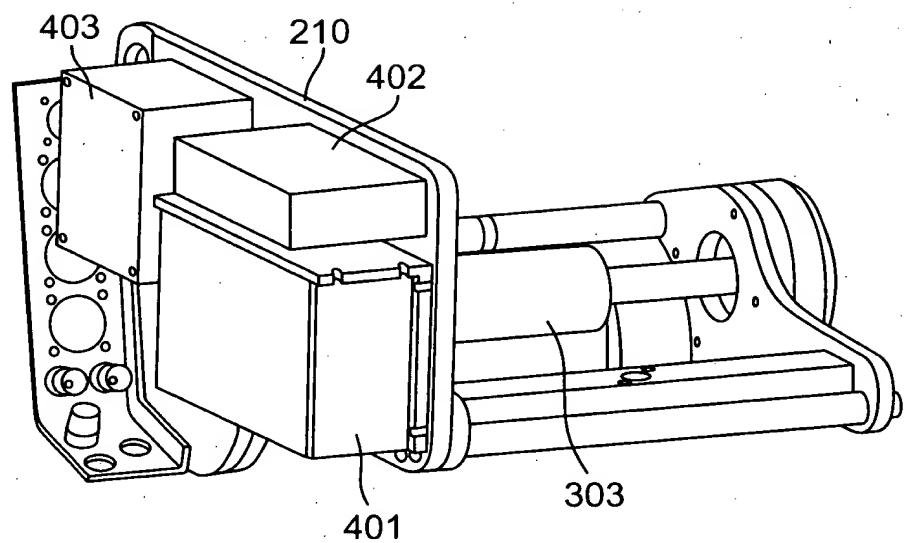


FIG. 4

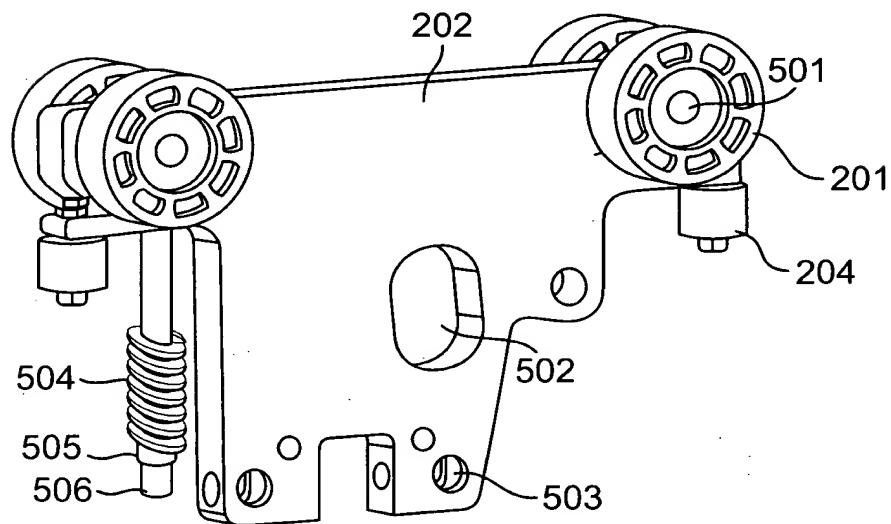


FIG. 5

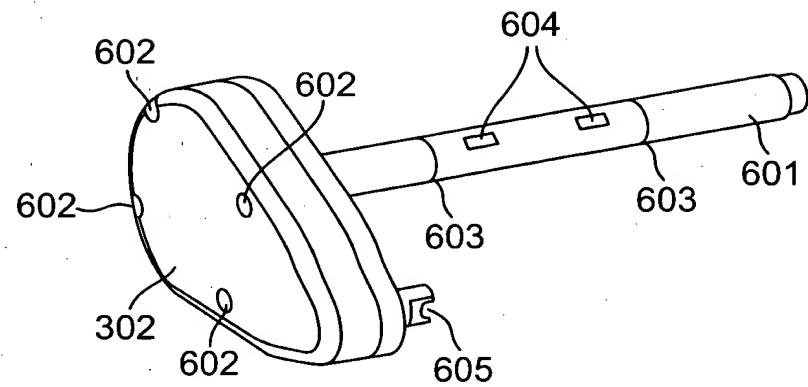


FIG. 6

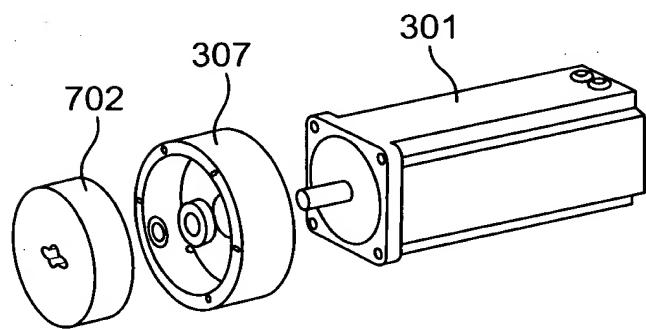


FIG. 7

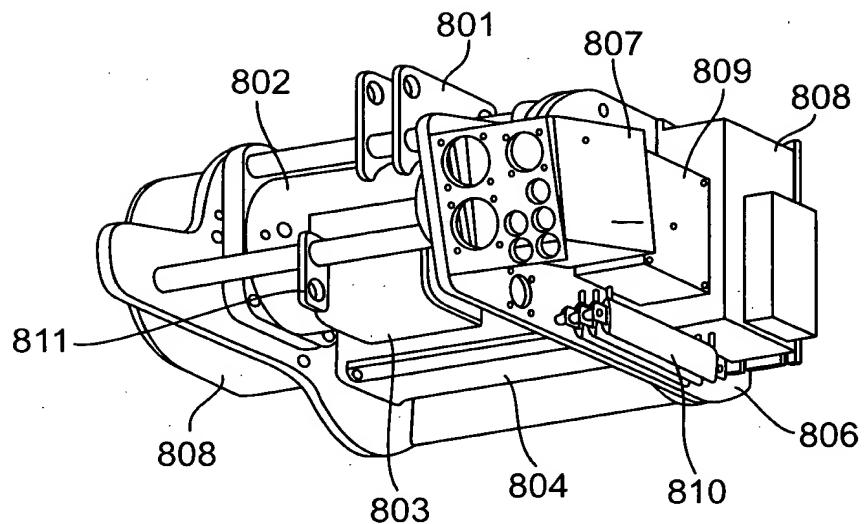


FIG. 8

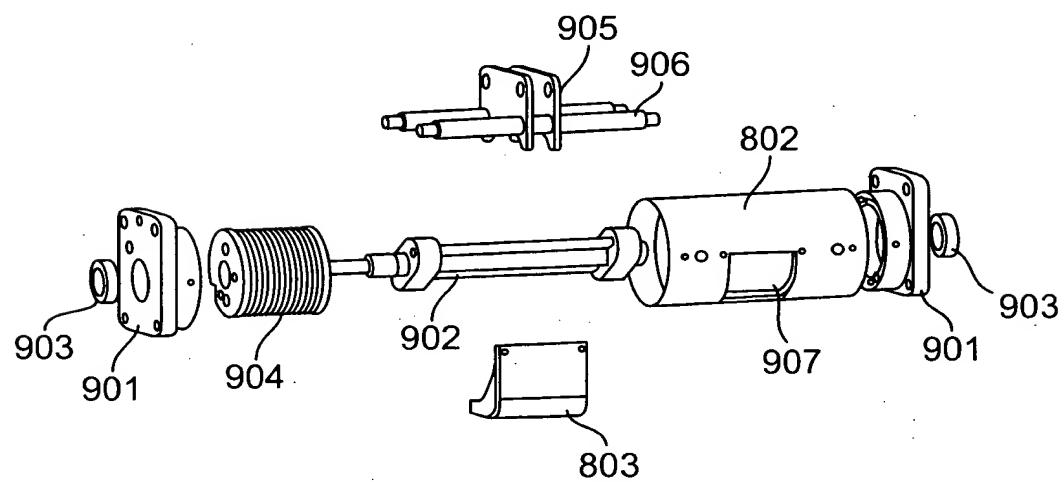


FIG. 9

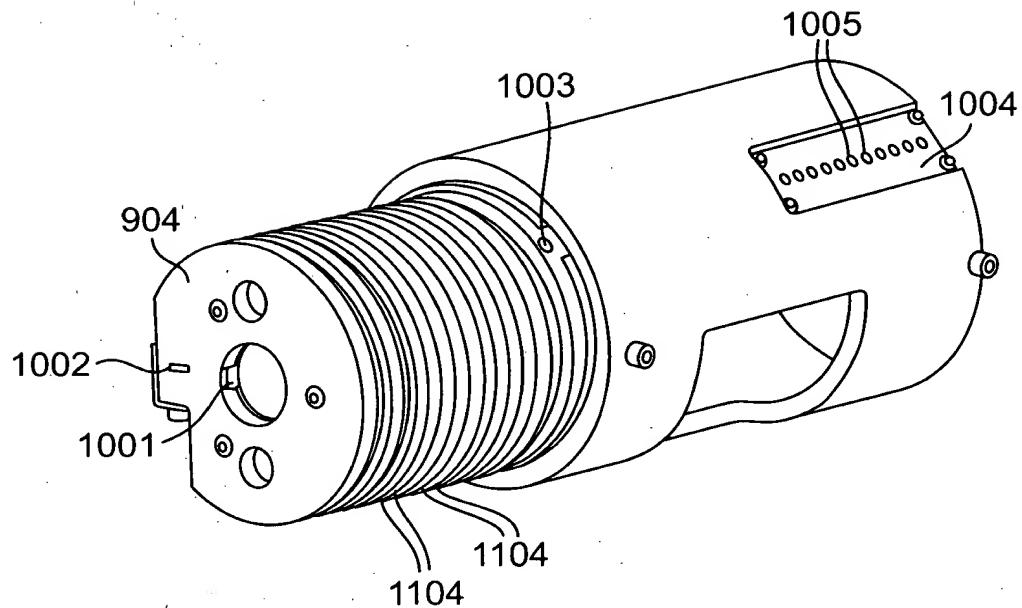


FIG. 10

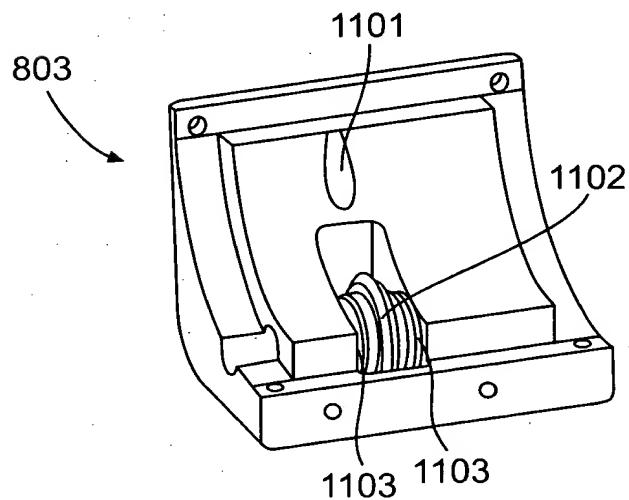


FIG. 11

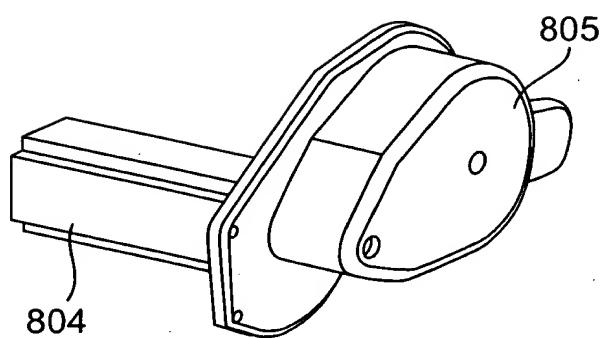


FIG. 12

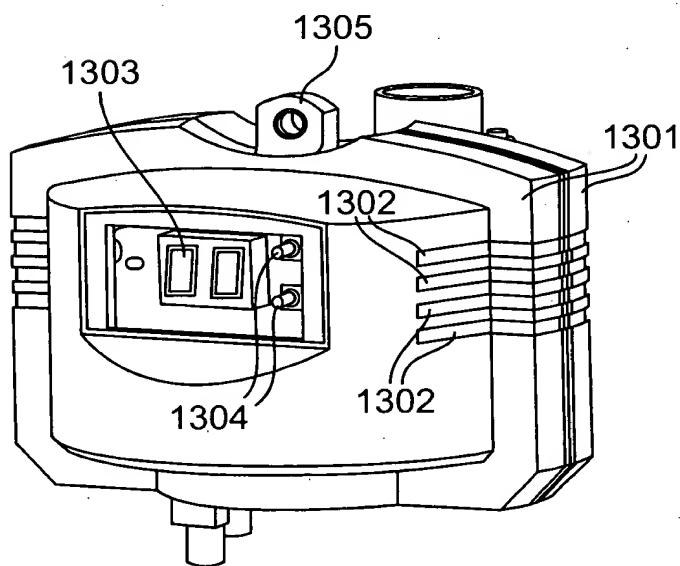


FIG. 13

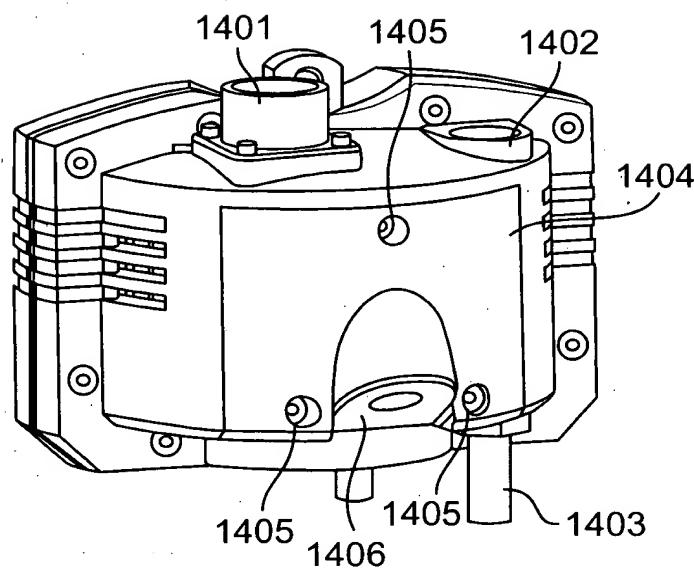


FIG. 14

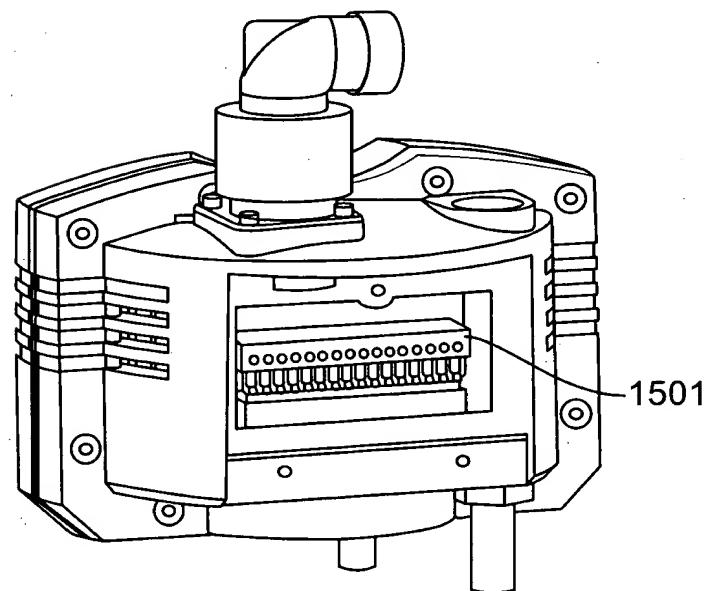


FIG. 15

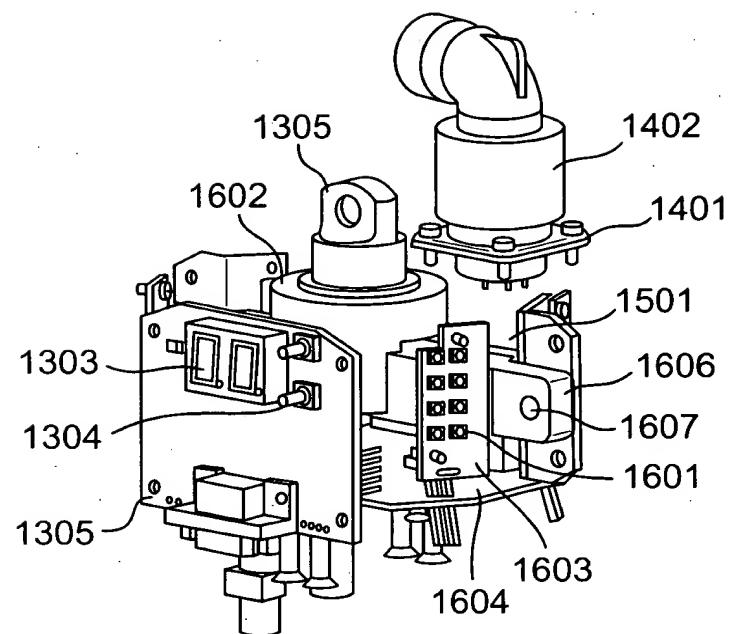


FIG. 16

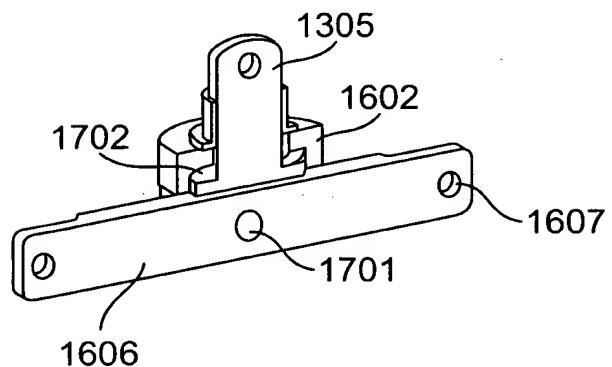


FIG. 17

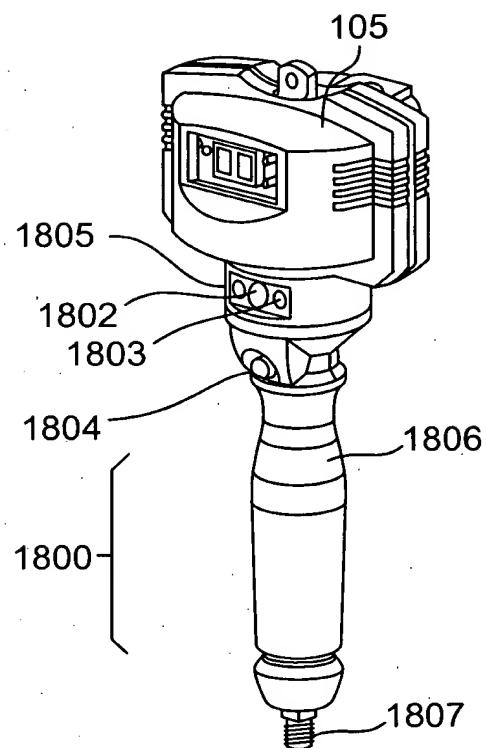


FIG. 18

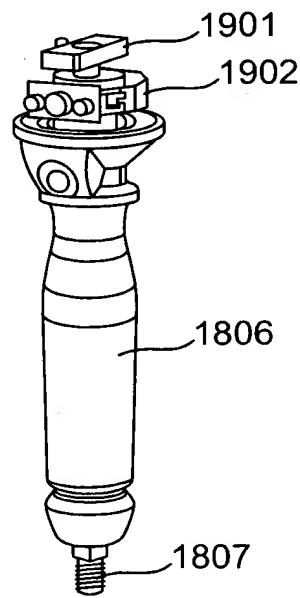


FIG. 19

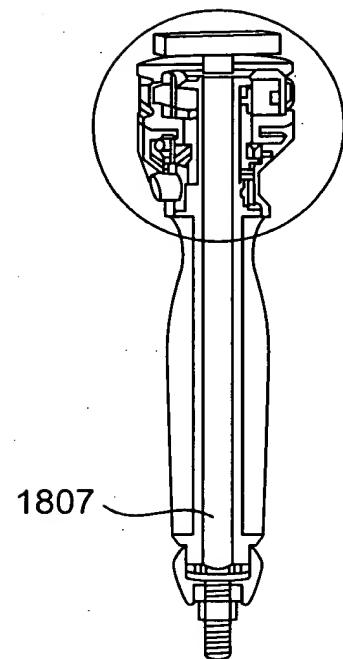


FIG. 20A

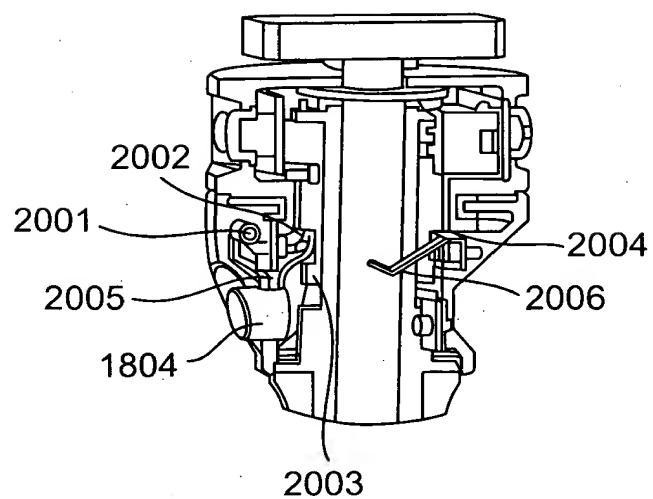


FIG. 20B

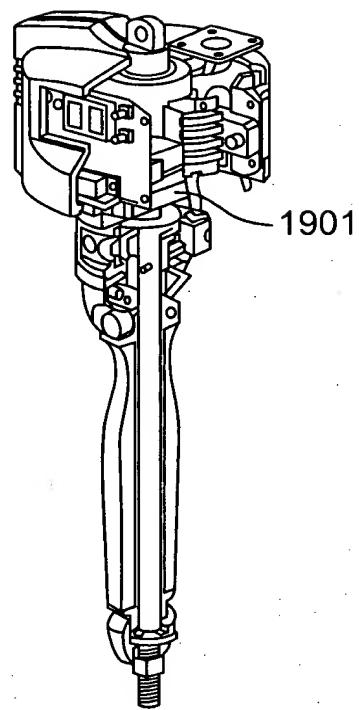


FIG. 21

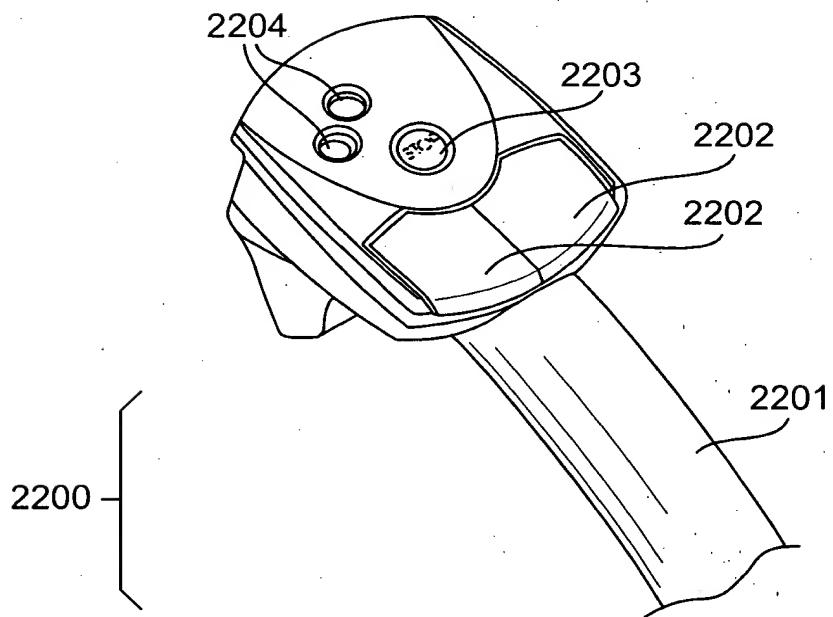


FIG. 22

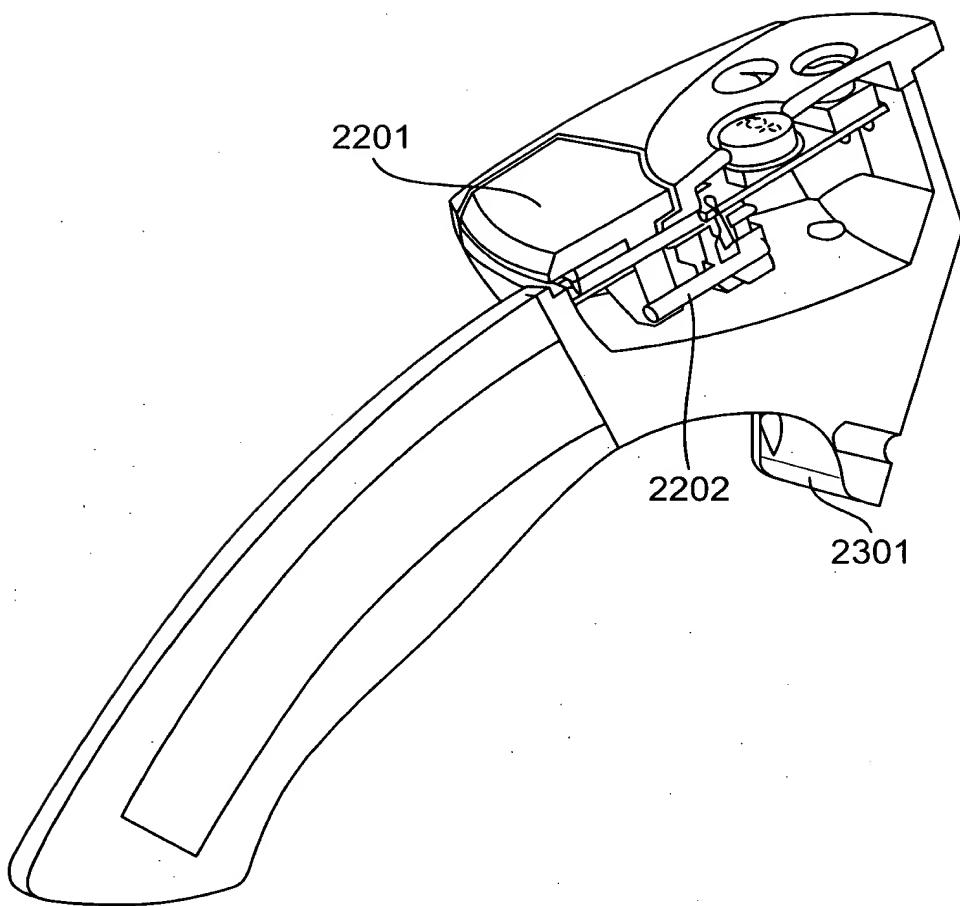


FIG. 23

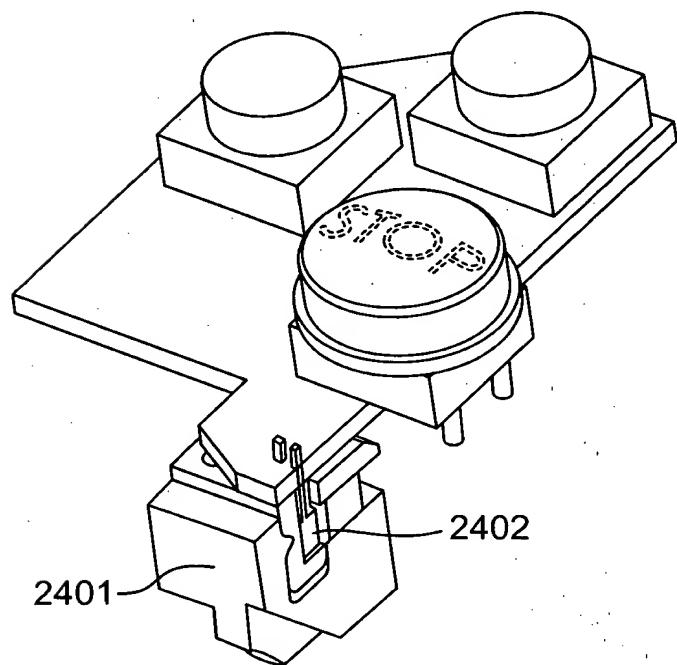
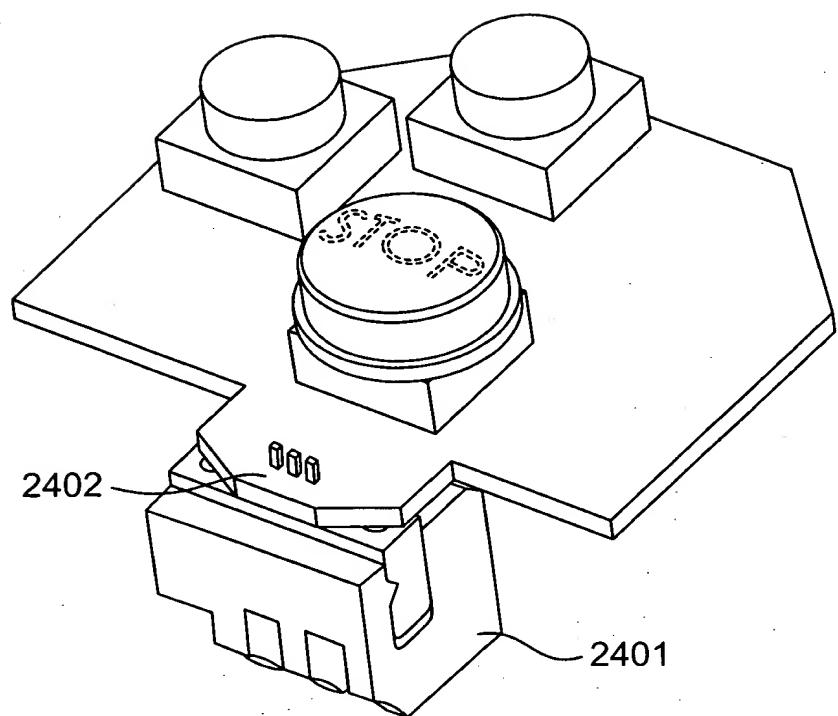




FIG. 27

2702

LAYOUT PANEL
DESIGNATE THE OVERALL LAYOUT OF YOUR SYSTEM
CHECK THE BOXES OF
COMPONENTS YOU HAVE

VERTICAL MOTION
 NONE
 COBOTICS LIFT
 INLINE HANDLE
 PENDANT HANDLE

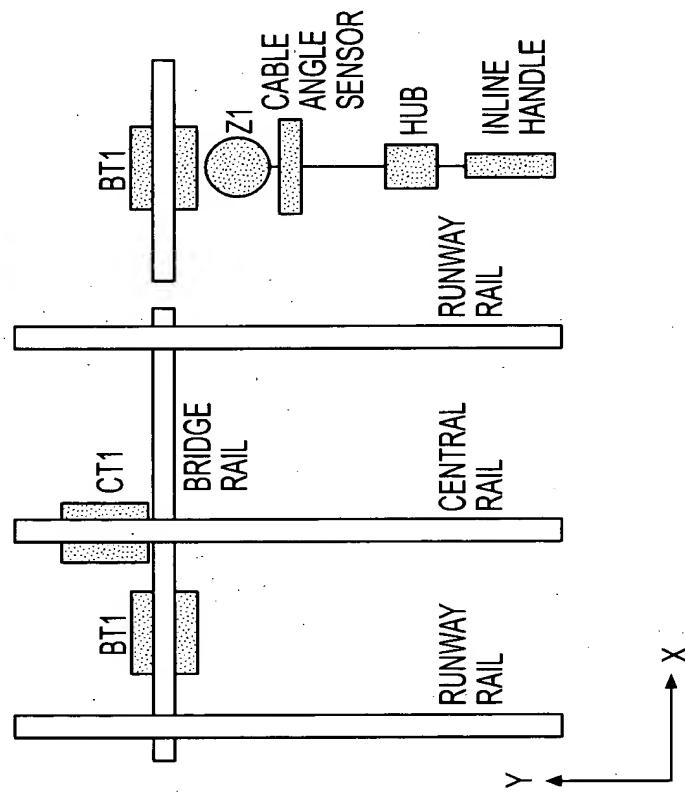
2701
OTHER HOIST OR BALANCER

LATERAL MOTION
 NONE
 MONORAIL SYSTEM WITH POWERED
MOTION ALONG MONORAIL
 XY RAIL SYSTEM WITH POWERED
MOTION OF BRIDGE
 BRIDGE IS MOVED BY TROLLEY ON
CENTRAL RAIL

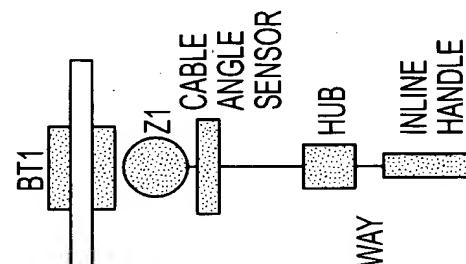
ONE TROLLEY
 TWO TROLLEYS IN TANDEM
 CABLE ANGLE SENSOR
 PUSH-BUTTON ACTUATOR
 FORCE BAR
 COLUMN ROTATION SENSOR
 BRIDGE IS MOVED BY TROLLEY ON
RUNWAY RAIL
 MOTION ALONG BRIDGE RAIL IS
ALSO POWERED
 ONE TROLLEY
 TWO TROLLEYS IN TANDEM

PC-TO-HUB DATALINK CONNECT RX TX
SHOWING ACTIVE DATASET

PLAN VIEW



ELEVATION VIEW





IDENTIFICATION PANEL
 CLICK TO LIGHT THE CORRESPONDING PHYSICAL UNIT, IN ORDER
 TO IDENTIFY WHICH IS WHICH. ASSIGN EACH UNIT ITS ROLE BY
 GIVING IT A LAYOUT CODES (REFER TO PICTURE FOR LAYOUT
 CODES). THIS PANEL REQUIRES AN ACTIVE DATALINK.

CLICK ANY TO LIGHT ACTUAL EQUIPMENT

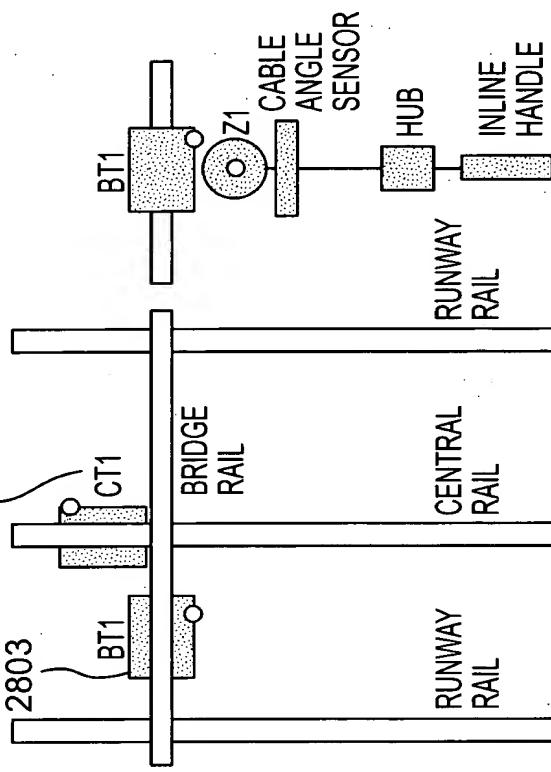
STATUS	IDENTIFY	THEN FILL THIS IN.	DESCRIPTION
UN- REGIST- ERED	(CLICK TO LIGHT)	<input type="radio"/> LAYOUT CODE	SERIAL NUMBER
OK	<input type="radio"/> Z1	000123	LIFT
2806	<input type="radio"/> OK		INLINE HANDLE
OK	<input type="radio"/> CT1	000124	TROLLEY
X	<input type="radio"/> CT1	000125	TROLLEY
2805	<input type="radio"/> OK		RUNWAY RAIL
2801	<input type="radio"/> OK	2804	CENTRAL RAIL
	<input type="radio"/> OK		RUNWAY RAIL
	<input type="radio"/> OK		INLINE HANDLE
	<input type="radio"/> OK		CORNER ID
	<input type="radio"/> OK		CORNER ID

PC-TO-HUB DATALINK CONNECT RX TX
 SHOWING ACTIVE DATASET

2702

PLAN VIEW

CORNER ID 2803 FILL ME IN!



CORNER ID

2802 2802

FIG. 28



MOTION TEST PANEL
TEST COMPONENTS & CHECK INSTALLATION ORIENTATION
THIS PANEL REQUIRES AN ACTIVE DATALINK

STATUS	LAYOUT CODE	JOG FORWARD (+)	SENSOR INDICATOR
OK	Z1	<input type="checkbox"/>	<input type="checkbox"/>
OK	CT1	<input type="checkbox"/>	<input type="checkbox"/>
OK	BT1	<input type="checkbox"/>	<input type="checkbox"/>
X	BT1	<input type="checkbox"/>	<input type="checkbox"/>

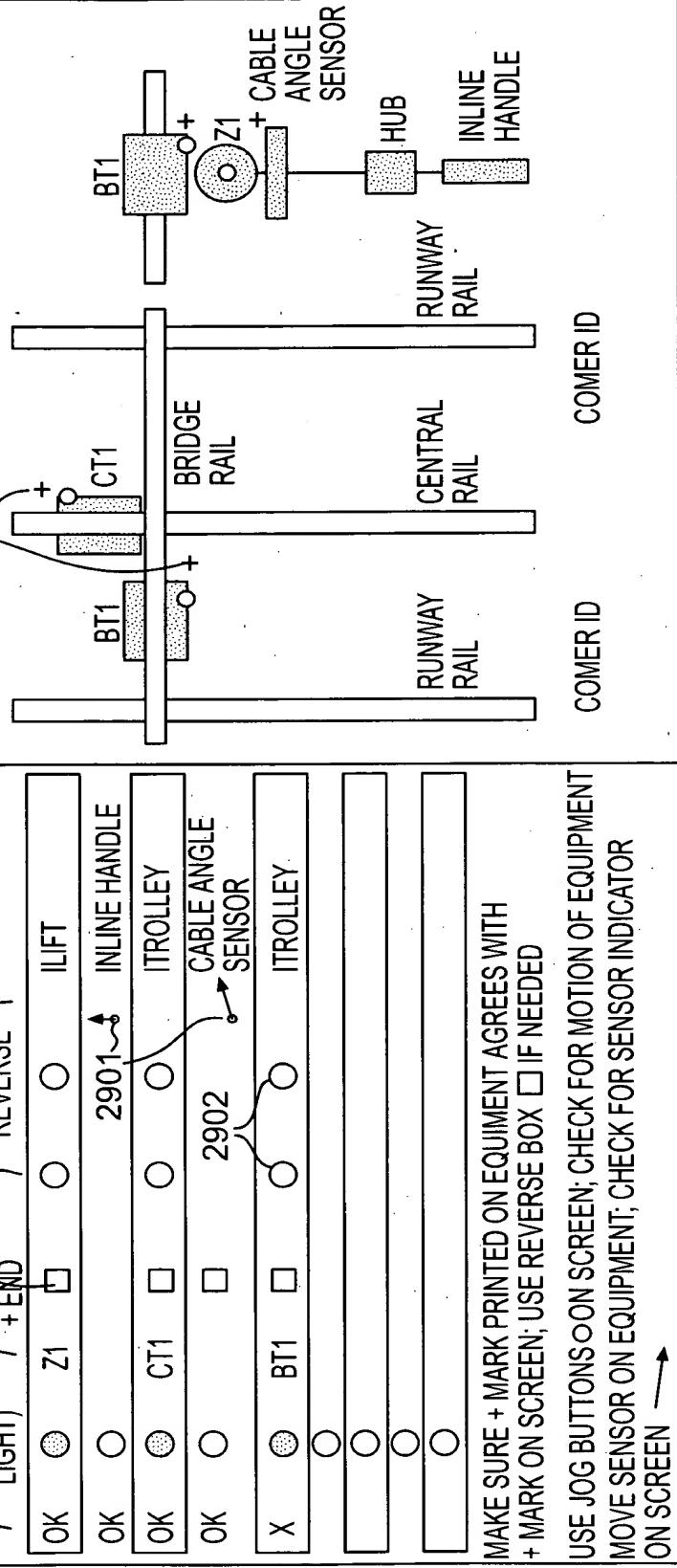
2903
(CLICK
{
TO
LIGHT)
+ END)

2904
COMER ID

COMER ID
2904
COMER ID

PLAN VIEW

ELEVATION VIEW



MAKE SURE + MARK PRINTED ON EQUIPMENT AGREES WITH
+ MARK ON SCREEN; USE REVERSE BOX IF NEEDED
USE JOG BUTTONS ON SCREEN; CHECK FOR MOTION OF EQUIPMENT
MOVE SENSOR ON EQUIPMENT; CHECK FOR SENSOR INDICATOR
ON SCREEN →

FIG. 29



LIFT SETUP PANEL

PC-10-RUB DIALINK CONNECTOR

3001 3002

3002 SET VALUE | EARN | INSTANTANEOUS VALUE

SPEED LIMIT

UPWARD  1.25 M/S
DOWNWARD  1.25 M/S
FORWARD SI AVES (FORWARD) 

DOWNWARD SLAVES UPWARD

ACCELERATION LIMIT

UPWARD 1.25 M/S²

DOWNWARD  1.25 M/S²

LANDLIE

SENITIVITY 125

SENSITIVE DEADBAND [2.5%]

DEADBAND 1.25

NULL 3003 1.23

3003 - MOTION STOPS

MOTION 3
LIBBER

UPPER	1.25 M
LOWER	1.25 M

卷之三

卷之三

100

卷之三

卷之三

FIG. 30

3100 ↘

LATERAL MOTION SETUP PANEL

PC-TO-HUB DATALINK CONNECT RX TX
SHOWING OFFLINE DATASET

	SET VALUE <input type="radio"/> LEARN <input type="radio"/> INSTANT VALUE
SPEED LIMIT	<input type="radio"/> 1.25 M/S
ACCELERATION LIMIT	<input type="radio"/> 1.25 M/S ²
ESTIMATE OF MOVING MASS ON BRIDGE	<input type="radio"/> 1.25 KG
ESTIMATE OF MOVING MASS ON CARRIAGE	<input type="radio"/> 1.25 KG
ESTIMATE OF BRIDGE LENGTH	<input type="radio"/> 1.25 M
BRIDGE SKEW NULL	1.25 <input type="radio"/> JOG + <input type="radio"/> JOG - <input type="radio"/> JOG IT STRAIGHT; THEN "LEARN"
CABLE ANGLE SENSOR	<input type="radio"/> 1.25
SENSITIVITY	<input type="radio"/> 1.25%
DEADBAND	<input type="radio"/> 1.25%
NULL	1.25, 1.25, 5.00 <input type="radio"/> 2.1234 <input type="radio"/> LEAVE IT VERTICAL; THEN "LEARN"
FORCE BAR	
SENSITIVITY	<input type="radio"/> 1.25
DEADBAND	<input type="radio"/> 1.25%
NULL	1.25, 1.25, 5.00 <input type="radio"/> 2.1234 <input type="radio"/> DON'T TOUCH IT; THEN "LEARN"
END OF TRAVEL LIMIT RUNWAY (-Y)	1.25 <input type="radio"/> 2.1234
END OF TRAVEL LIMIT RUNWAY (+Y)	1.25 <input type="radio"/> 2.1234
END OF TRAVEL LIMIT BRIDGE (-X)	1.25 <input type="radio"/> 2.1234
END OF TRAVEL LIMIT BRIDGE (+X)	1.25 <input type="radio"/> 2.1234

FIG. 31





HUB LOGIC PANEL
SPECIFY INTERLOCK FUNCTIONS (OR OTHER LOGIC) ON COBOTICS HUB

PC-TO-HUB DATALINK CONNECT RX TX
SHOWING ACTIVE DATASET

3201

LOGIC FUNCTIONS

- (LOGIC 1) ACTIVATE PAYLOAD RELEASE (P1) SO LONG AS SWITCH S1 IS PRESSED
- (LOGIC 2) ACTIVATE PAYLOAD RELEASE (P1) WHEN SWITCH S1 IS PRESSED, BUT NOT IF INTERLOCK WEIGHT IS EXCEEDED. DE-ACTIVATE PAYLOAD RELEASE WHEN SWITCH S2 IS PRESSED.
- (LOGIC 3) ACTIVATE PAYLOAD RELEASE (P1) WHEN SWITCH S1 IS PRESSED, BUT NOT IF INTERLOCK WEIGHT IS EXCEEDED, AND NOT IF INTERLOCK HEIGHT IS EXCEEDED. DE-ACTIVATE PAYLOAD RELEASE WHEN SWITCH S2 IS PRESSED.
- (LOGIC 4) ACTIVATE PAYLOAD RELEASE (P1) WHEN SWITCH S1 IS PRESSED, BUT NOT IF INTERLOCK WEIGHT IS EXCEEDED, AND NOT IF INTERLOCK HEIGHT IS EXCEEDED. DE-ACTIVATE PAYLOAD RELEASE WHEN SWITCH S2 IS PRESSED.
- (LOGIC 5) ACTIVATE PAYLOAD RELEASE (P1) WHEN SWITCH S1 IS PRESSED, HOWEVER, IF INTERLOCK WEIGHT IS EXCEEDED OR INTERLOCK HEIGHT IS EXCEEDED, LOWER SLOWLY UNTIL THEY ARE NOT AND THEN RELEASE. DE-ACTIVATE PAYLOAD RELEASE WHEN SWITCH S2 IS PRESSED.
- CUSTOM LOGIC

3202

VIEW SELECTED LOGIC

3203

FIG. 32



HUB LOGIC PANEL
SPECIFY INTERLOCK FUNCTIONS (OR OTHER LOGIC)
ON COBOTICS HUB

PC-TO-HUB DATALINK  CONNECT  RX  TX
SHOWING ACTIVE DATASET

```

graph TD
    H1[H1 HEIGHT EXCEEDED] --> P1
    S2[S2 SWITCH DEPRESSED] --> P1
    S3[S3 SWITCH DEPRESSED] --> P1
    W1[W1 WEIGHT EXCEEDED] --> P1
    P1 --> P2
    P2_1["P2 (1= TTL HI)"] --> P2
    P2 --> P3
    P3_1["P3 (1= TTL HI)"] --> P3
    E_STOP[E-STOP] --> P3
    P3 --> Hatch[Hatch?]
  
```

ADVANCED...	SELECT STD LOGIC...	NOTES...
	3309	3307
		3306 3308

3304
3304
3304
3304

3305

FIG. 33

FIG. 33



PROFILES SETUP PANEL
ALL SELECTIONS ARE SUBJECT TO OVERALL LIMITS,
ON ILIFT & ITROLLEY PAGES

3402

3401

PC-TO-HUB DATALINK CONNECT RX TX

SHOWING ACTIVE DATASET

PROFILE ID	3403	MD	HI	SK
OWNER NAME	DEFAULT MEDIUM PROFILE	DEFAULT FAST PROFILE	STEVE KLOSTERMEYER	
ILIFT SPEED LIMIT	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	
ACCELERATION LIMIT	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	
SENSITIVITY	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	
DEADBAND	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	
ITROLLEY SPEED LIMIT	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	
ACCELERATION LIMIT	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	
SENSITIVITY	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	
DEADBAND	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	MIN <input type="checkbox"/> MAX <input type="checkbox"/>	
	3404			

USE DEFAULT VALUES OLO
 OMD OHI
 OMD OH

USE DEFAULT VALUES OLO
 OMD OHI
 O REMOVE PROFILE
 O ADD NEW PROFILE

USE DEFAULT VALUES OLO
 OMD OHI
 O REMOVE PROFILE
 O ADD NEW PROFILE

INSTRUCTIONS: OPERATORS CAN SELECT THEIR INDIVIDUALIZED PROFILE AT THE HUB. MOVE SLIDERS TO ADJUST FEEL. SLIDER VALUES ARE RELATIVE TO LIMITS SET ON THE ILIFT AND ITROLLEY SETUP PAGES. YOU CAN SET A PROFILE TO THE LO, MD OR HI DEFAULTS BY CLICKING A BUTTON.



FIG. 34

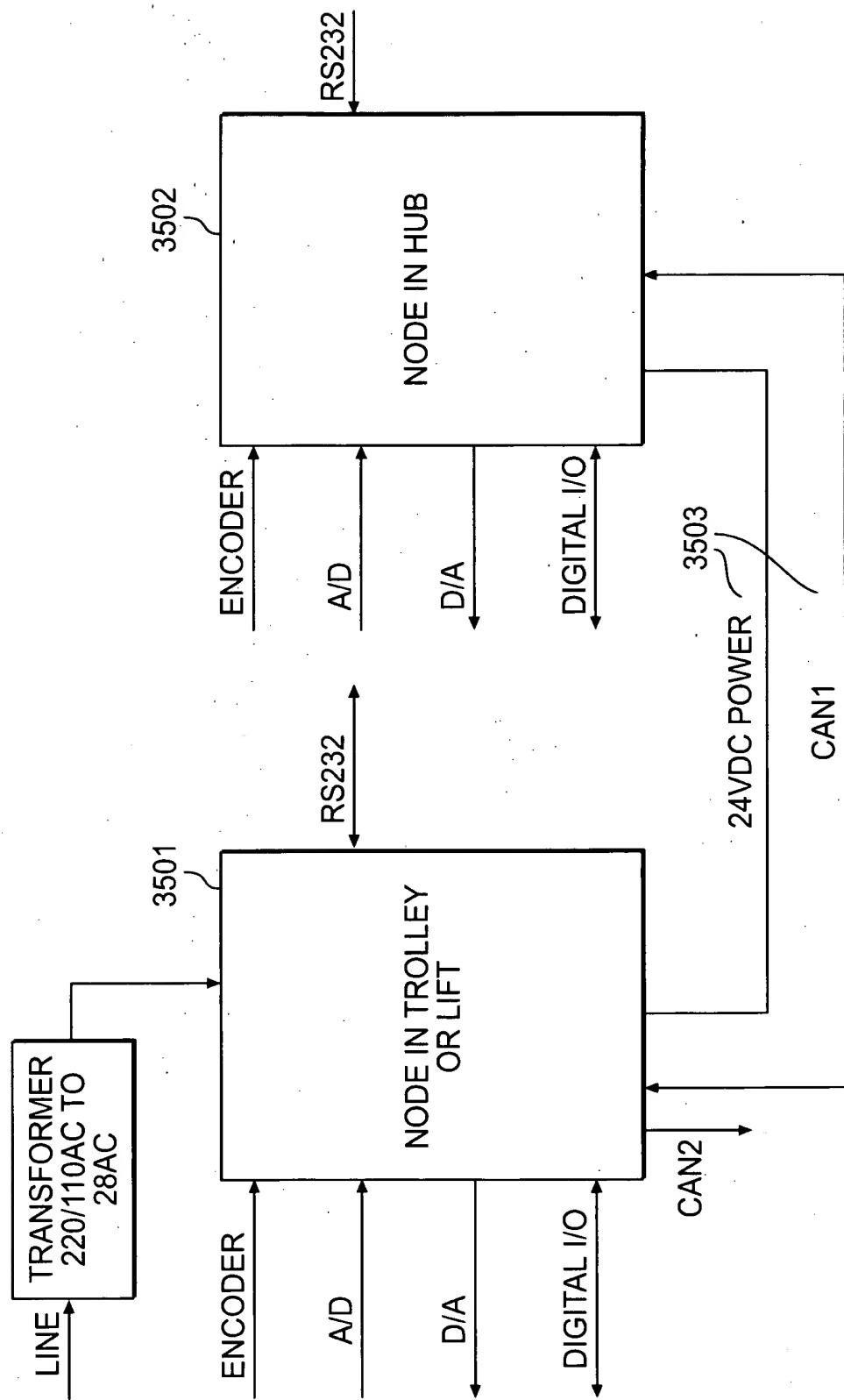


FIG. 35

O I P E JC177
SEP 17 2004
PATENT & TRADEMARK OFFICE

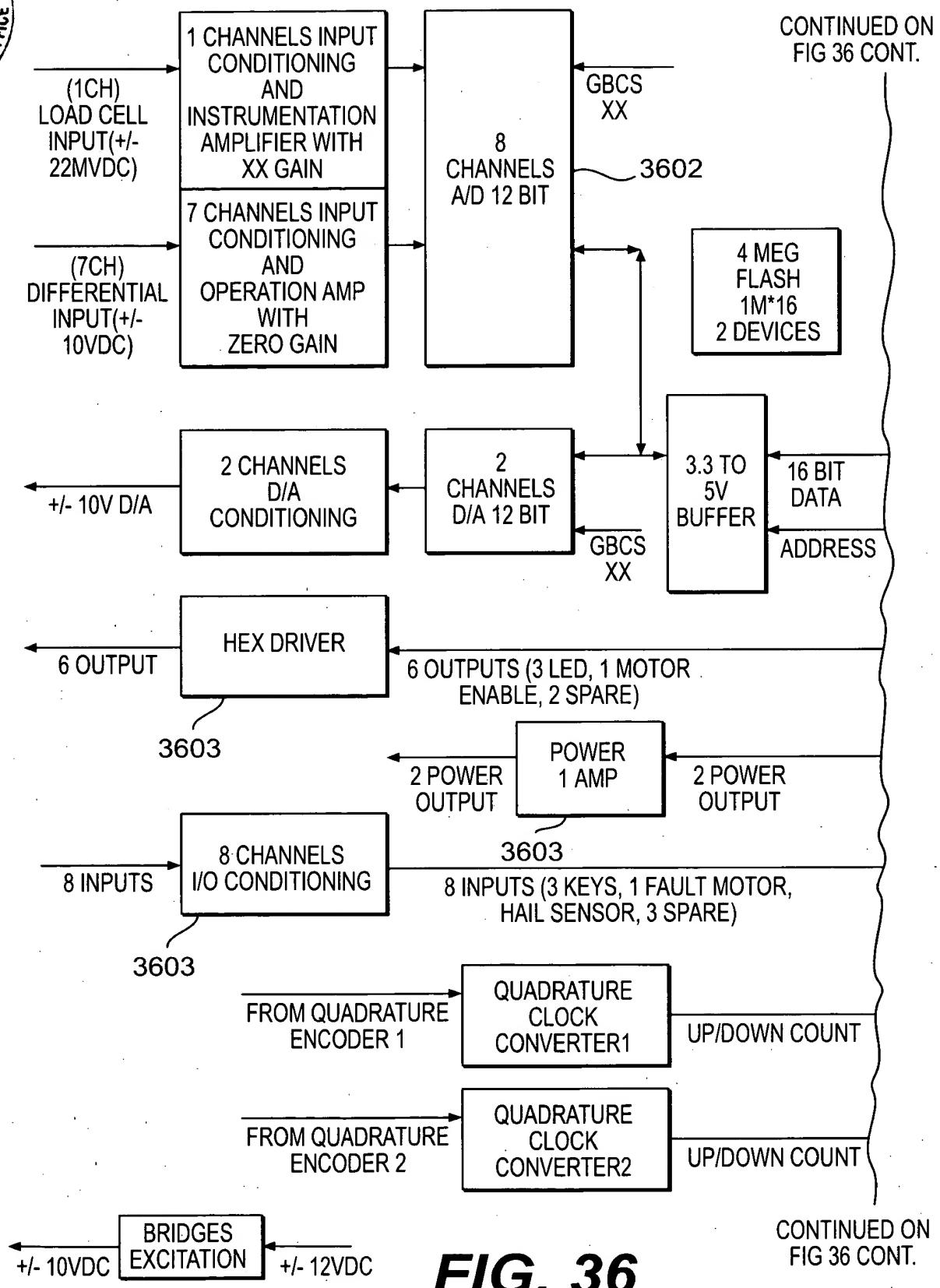


FIG. 36



CONTINUED
FROM FIG 36

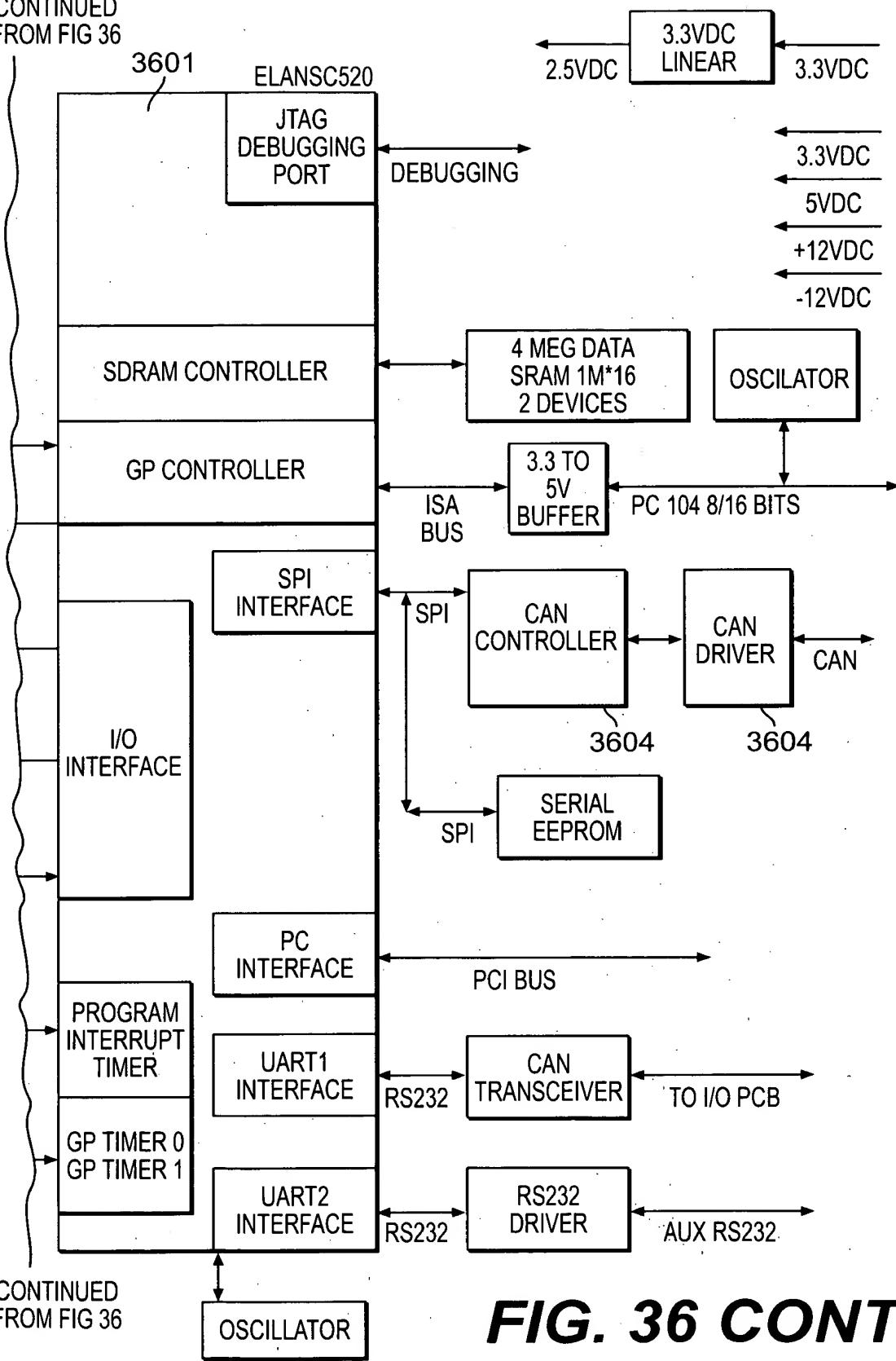


FIG. 36 CONT.

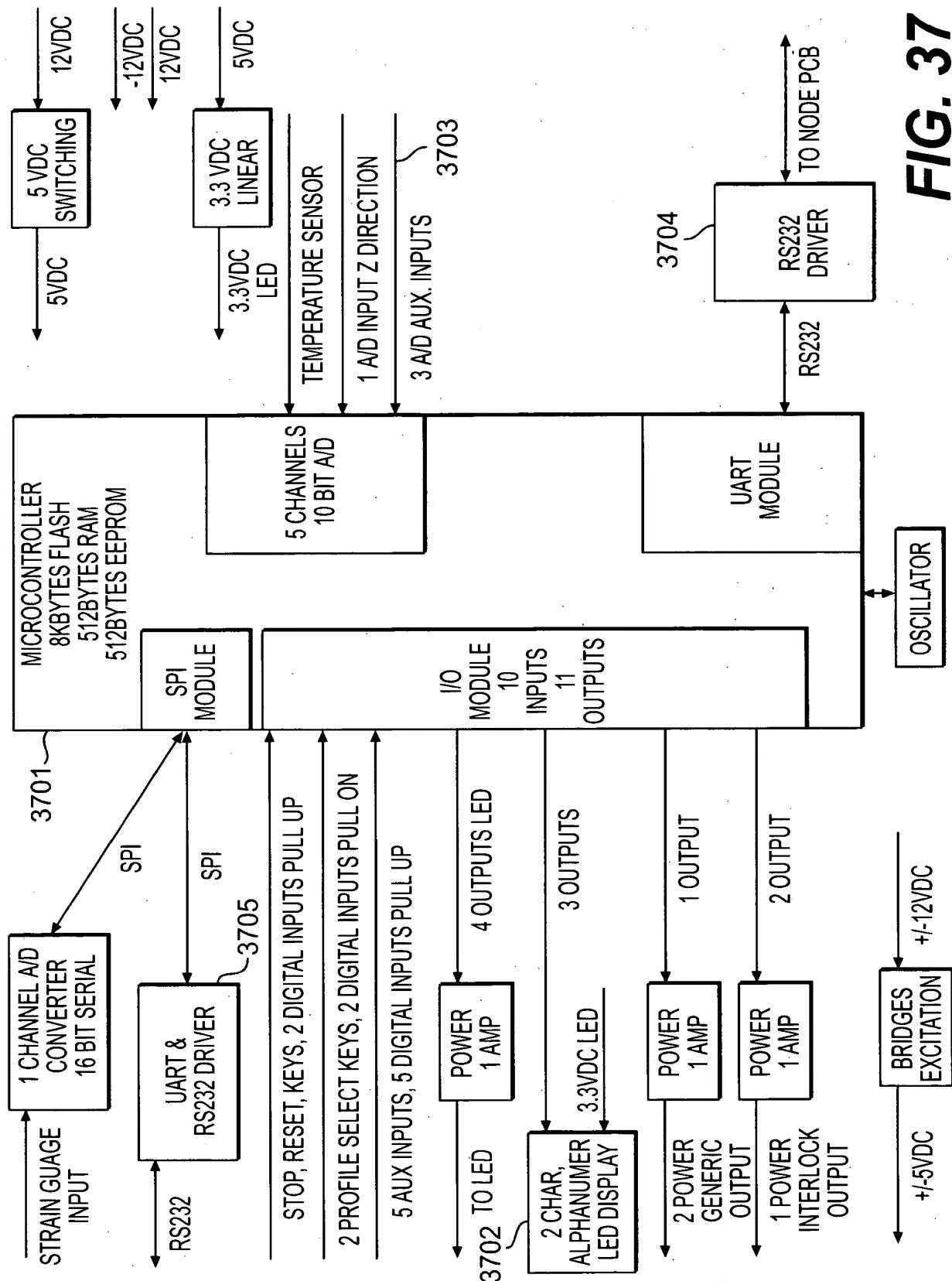


FIG. 37



FIELD	SIZE (BYTES)	DATA FORMAT	DESCRIPTION
SIZE	1	BINARY	PACKET SIZE.
DEVICE_ID	1	BINARY	DESTINATION DEVICE ID.
CMD_TYPE	1	BINARY	COMMAND TYPE.
DATA	VARIABLE	BINARY	ACTUAL DATA ASSOCIATED WITH THE CMD_TYPE FIELD.
CHKSUM	1	BINARY	CHECKSUM OF PACKET. THIS BYTE EQUALS TO THE TWO'S COMPLEMENT OF THE SUM OF THE SIZE, DEVICE_ID, TYPE AND DATA, OMITTING ANY CARRY.

FIG. 38